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Intramedullary Pinning of a Fracture in a Dog

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left eye and surrounding area by irrigation with 2 percent boric acid solution. Sulfanilamide powder was dusted on the wound. Similar treatment followed for the next three days substituting 5 percent sulfathiazole ophthalmic ointment for the sulfanilamide powder.

November 26, 1948 the carcinomatous condition had been corrected by the x-ray, however the previous removal of the left lower eyelid prevented proper disposition of normal lacrimal fluid thereby necessitating removal of the eye. The patient was given 55 Gms. of chloral hydrate via stomach tube and restrained in the right recumbent position on the operating table.

The upper eyelid and surrounding area of the left eye were washed, shaved, defatted with ether, disinfected with strong tincture of iodine and infiltrated with 2 percent procaine hydrochloride solution. Surgical removal of the eye followed. The orbital cavity was packed with sterile gauze and sulfanilamide powder. Interrupted sutures of surgical silk were placed across the orifice to hold the pack in place.

The third day following enucleation of the eye, the medial one-half of the sutures were removed and the pack was withdrawn. The cavity was flushed with potassium permanganate solution 1:3000 and insufflated with sulfanilamide powder. This treatment was continued until Dec. 9, 1948.

The remaining sutures were removed on Dec. 5, 1948. Healthy granulations were forming in the cavity and exudation from the wound was slight.

December 10, 1948: exudation had ceased, granulations were rapidly filling the orbital cavity, and the horse was in good physical condition.

The patient was discharged from the clinic on Dec. 12, 1948.

The opinion of the radiologist in charge is that if the lower eyelid had not been removed, x-ray therapy would have successfully corrected the lesions and enucleation of the left eye would not have had to be performed.

O. Whitcomb and A. Neuman, '49

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Intramedullary Pinning of a Fracture in a Dog.

A 6 months old Collie bitch was admitted to the Stange Memorial Clinic on Jan. 13, 1949, with a history of having had its right rear leg broken 10 days previously, in some undetermined manner. The broken end of the tibia was protruding through the skin. Fluoroscopic examination revealed a fracture of the fibula and a compound transverse fracture of the tibia at a point $2\frac{1}{2}$ inches from its proximal end.

The next morning, following pre-operative administration of 2 gr. of morphine sulfate, the animal was restrained upon the operating table. The entire right rear leg was shaved, defatted with ether, and sprayed with 70 percent ethyl alcohol. Ether was then administered to produce surgical anesthesia in the patient. The leg was covered with a sterile shroud, and an incision made to expose the tibia near the fractured end. By blunt dissection, the muscles were separated from the bone, which was found to be necrotic for about $\frac{1}{2}$ inch from the projecting end. This necrotic piece was removed with a bone saw.



Fig. 5. The leg, showing the surgical closure of the wound in the soft structures.

By incisions and blunt dissection, a site on the antero-medial surface of the tibia, just distal to the joint capsule of the femoro-tibial articulation, was exposed. A sharp, stainless steel pin, $\frac{1}{8}$ inch in diameter and ending in a three-sided short tip, was drilled through the bone at this point, to penetrate into the medullary cavity of the tibia. Following penetration, it was tapped down to the region of the fracture, remaining confined within the bone marrow. The broken ends of the tibia were then properly aligned and brought into apposition, and the pin completely driven through the broken region and into sound bone beyond it.

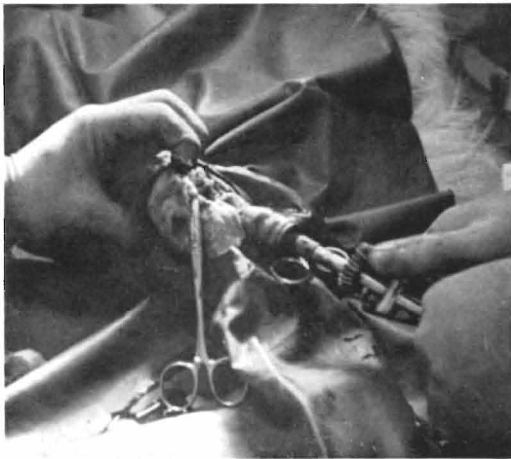


Fig. 6.. Procedure used in drilling through the lamellar bone in the proximal end of the tibia.

The fibula, with a transverse center break, was alined with its ends over-riding, due to the shortened length of the tibia. The fascial layers were then sutured with No. 3 plain catgut to cover the bone. The skin edges were brought into apposition with interrupted silk sutures, with the distal end of the incision left open to permit drainage. The stainless steel pin was cut off so as to lie just beneath the skin.

The incision was covered with BIPP paste (Bismuth subnitrate, Iodoform, and Petrolatum), and dressed with a sterile gauze pad bandaged in place. An

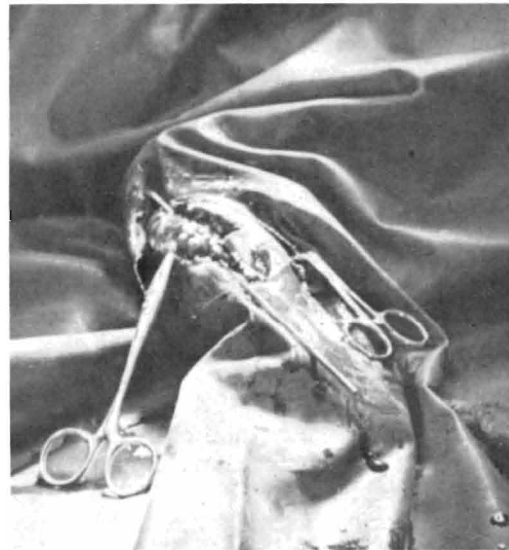


Fig. 7. The position of the pin after being forced through the medullary cavity of the proximal end of the tibia, with the end projecting through the fracture and emerging from the wound..

aluminum splint was molded to fit the anterior aspect of the limb and bandaged in place to aid in supporting the leg. The dog was returned to her kennel after prophylactic injection of 35 cc. of Anti-Canine Distemper Serum and 300,000 O. U. of procaine penicillin in oil.

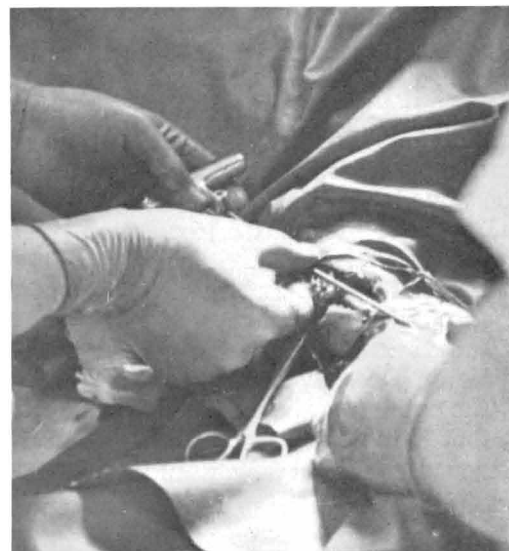


Fig. 8. Method of forcing the p'n into the medullary cavity after drilling through the lamellar bone.

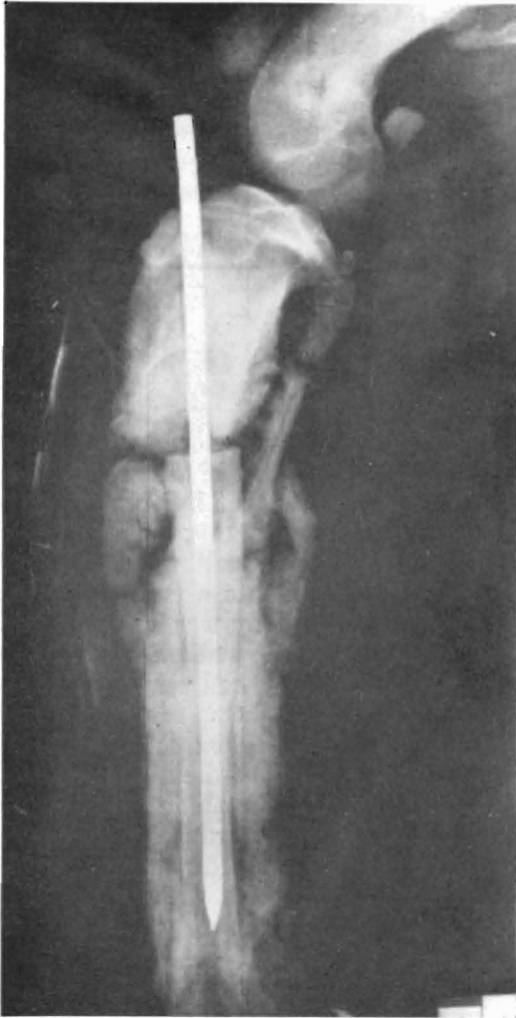


Fig. 9. Radiograph showing the position of the pin prior to removal of the protruding end.

On the following day, the animal appeared slightly depressed, and its temperature was elevated to 104.4 degrees. The penicillin therapy was repeated. The temperature dropped to normal limits on Jan. 16, and has varied little since that time. Dosages of 300,000 O.U. of penicillin were administered again on Jan. 16 and 17, the dosage halved thereafter, with no adverse effects being noticed.

The splint was removed on Jan. 17, the leg dried of discharge present, and dressed and splinted as before. The dressings were again changed in two days.

The skin sutures were removed on Jan. 22, and the wound cleaned and covered

with dressings. As of the time of writing this report, further treatment consists of redressing the wound daily.

Thomas J. Flynn, '50

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Intramedullary Pinning of a Fracture in a Dog.

A 6-year-old male Chow was admitted to the Stange Memorial Clinic on December 8, 1948, with a history of having suffered an injury of the left rear leg when struck by a car seven days previously. The dog was unable to walk on that limb, which was swollen from a point below the femorotibial articulation up to the pelvic region. To facilitate examination, pentobarbital sodium was administered intravenously to effect, and the animal placed upon the table.

Fluoroscopic examination revealed a complete transverse fracture of the femur of the left hind leg at a point approximately $1\frac{1}{4}$ inches from the distal end. X-ray exposures, dorsal to ventral and lateral to medial, were made for permanent records.

The following morning, the dog was taken to the operating room and placed under anesthesia with pentobarbital sodium given intravenously to effect. The surgical site was clipped, shaved, defatted with ether, and sprayed with an organic mercurial skin disinfectant. Using ether to supplement the barbiturate, surgical anesthesia was produced without event.

An incision was made directly over the trochanter major of the femur, to penetrate the skin. By blunt dissection and further incisions, the dorsal surface of the trochanter was made available for palpation, and the site for drilling selected according to the shape and conformation of the bone. A sharp stainless steel pin with a three-sided short tip, was aligned parallel with the length of the femur, then driven into the medullary cavity of the bone at the selected site, and tapped downwards through it until its distal end was at a point just short of the fracture.

Previous to this time, an incision had been made through the skin and muscle